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Poster contest winners named

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The impact of surface mining

plus

Swan Hills erosion problems tackled

November 72

Printed by the QUEEN'S PRINTER for the
Province of Alberta, Edmonton

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Environment Week poster contest winners named

Twelve Alberta students have been named winners in the first Environment Week poster contest held this fall in connection with Canadian Environment Week October 8-14.

Winners were picked in each grade from the nearly 3,000 entries received. Each winner will receive the Alberta Nature Library, consisting of four books: Mammals of Alberta, Birds of Alberta, Flowers of Alberta, and Fish of Alberta.

ENVIRONMENT NEWS is published monthly by the Alberta Department of the Environment, and is distributed free of charge. Address all correspondence to: Environment News, 7th Floor Milner Building, 10040 - 104th Street, EDMONTON, Alberta.

November 1972 VOLUME 2 NUMBER 8

Honourable W.J. Yurko
Minister

Dr. E.E. Ballantyne
Deputy Minister

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"Of all the foothills and mountain surface coal mining sites visited in Alberta and British Columbia, only one had clear evidence of accepting physical reclamation, but even that site had not yet had time to prove a permanent revegetation," the report states.

The report says inspectors should be able to supervise each step in a surface mining development; and should have authority to make on-site inspections at all times and the power to suspend an operation for failure to comply with regulations.

It suggests that reasonable precautions should be taken to protect watersheds, and mining should be prohibited in selected sites to protect waterfalls of great beauty or to protect streams which might be designated as "wild rivers".

All coal-handling facilities should be constructed and located to minimize air and water pollution, and protective emergency structures should be installed between any coal treatment facility and a watercourse, the report says.

The report strongly recommends that applications for mine operations in foothills or mountain areas be preceded by "comprehensive, pre-development investigations" to be filed by the developer, and "detailed engineering plans".

Among the other recommendations:

- Where irreconcilable conflicts arise between surface mining and tourism and recreation, "these should be resolved in favor of the larger and longer-lived social and economic benefits..."

- If sites cannot be developed in areas of great sensitivity, without permanent impairment of their values, then these areas should be entirely reserved against exploration and mining activities.

- Reclamation research projects should be undertaken by the federal and provincial governments and industry in cooperation with universities.

Steel can recycling increasing in USA

More than 2.4 billion steel cans will be pulled magnetically from municipal trash piles in the United States this year--about three times the number reclaimed in 1971. The American Iron & Steel Institute says 16 magnetic reclamation systems are now operating in the USA, with 11 more localities due before 1974.

Four principal markets have been developed for reclaimed steel cans. The steel industry buys them for remelting into new steel. Copper firms use them as a precipitating element to recover copper from low grade ore.

From every ton of scrap steel, 7.5 lbs. of tin can be chemically reclaimed. Ferroalloy manufacturers combine can scraps with such elements as silicon and manganese for melting and casting processes. Even communities remote from such markets can benefit from magnetic reclamation, says the AISI, for extraction of cans from trash can extend landfill life by 25 percent or more.

Government oil companies work together to eliminate Swan Hills erosion problems

A recent meeting between oil companies working in the Swan Hills area and provincial government personnel has resulted in a joint approach to eliminate the problem of erosion in that area.

Removal of vegetation for mineral exploration has in past years caused serious erosion and siltation of rivers and streams.

At the meeting, it was agreed that a management committee be established to help companies solve the erosion problems of the area. The committee will consist of representatives from the industry, the Departments of Lands and Forests, Highways, The Environment and the Energy Resources Conservation Board. The industry representative will vary, as he will represent the company whose erosion control is being looked into.

The committee will name a project leader for erosion control projects in the area, and will coordinate the provincial government's involvement in this work. It will also make available any information in government departments which may help this work.

The representatives of the oil companies told the meeting that erosion control work has been going on in the Swan Hills, but it is difficult because there are only about 45 days per season to do this work.

Environment Minister W.J. Yurko has acknowledged the efforts of the companies to date, but noted that the erosion problem in total in the Swan Hills needs more attention. Therefore, he said, there is a need to accelerate the program by this joint industry and government cooperation with the objective of reversing the erosion trend in the next three years.

Chemical producers expand emergency plan

The Canadian Chemical Producers' Association (CCPA), announced recently the expansion of their Transportation Emergency Assistance Plan into Alberta.

This plan, called TEAP, which was the first such plan implemented in North America, has operated successfully in Ontario and Quebec for almost two years, providing assistance in transportation energencies involving chemicals.

TEAP provides technical assistance to emergency forces at an accident scene in order to protect life and property and minimize the threat to the environment.

The expansion of TEAP into Alberta is the culmination of many months of cooperative effort by representatives from CCPA member companies located in Alberta. The Alberta operation will be based on the techniques and experience developed elsewhere in Canada and the U.S.A. during the last two years.

Alberta's Minister of the Environment, W.J. Yurko, has expressed his endorsement of such a plan and his government has supported the work of the TEAP Expansion Committee through the Environment Conservation Authority.

D.W. Scott, chairman of the Alberta TEAP Expansion Committee, and manager of Celanese Canada's Edmonton plant, said that the Alberta regional control center for TEAP will be located at the company's plant at Clover Bar. The emergency telephone number will be distributed to all civic and municipal agencies, R.C.M.P., local police forces and the Alberta Emergency Measures Organization as well as the companies engaged in the manufacture, distribution and transportation of chemicals.

The regional control center will be manned 24 hours a day, seven days a week and will be on call to give immediate advice and assistance in an emergency involving hazardous chemicals and to establish and maintain contact with the best sources of assistance until the emergency is over.

Glass containers recycled

Glass container recycling in the United States has passed the billion bottle mark. For the 250,000 tons of bottles turned in, $5 million was paid to individuals and groups. The Glass Container Manufacturers Institute began the program in 1970 in Los Angeles. There are now nearly 100 glass container plants in 25 states accepting bottles for recycling at about $20 a ton.

Zinc in motor oil may be next:

Now that they got the lead out . . .

Demands to get the zinc out of oil may be the next environmentalist crusade the petroleum industry will face. Automotive zinc emissions are scored by a new report from the United States Interior Department's Fish & Wildlife Service.

Study of earthworms taken from roadside areas in Washington, D.C., showed potentially toxic levels of zinc in specimens as far as 160 ft. away from the roadway. Zinc is an ingredient in practically all good motor oil grades.

Interior's sample worms came from areas beside a highway at distances of 10, 20, 30, 40, 80 and 160 ft. from the road. They were ground up and sent to the University of Wisconsin for chemical analysis.

Even the samples from the 160 ft. distance showed zinc concentrations up to 52.7 ppm. Interior says 50 ppm concentrations have proved fatal to young pigs.

Lead, cadmium and nickel also showed up in the worms. Lead level was 220 ppm 10 ft. from the road--a level that has killed mallard ducks--but decreased at greater distances. Also at the 10 ft. distance, cadmium was 12.6 ppm--62 ppm has killed rats--and nickel--for which no research on toxicity has been done--showed 34.5 ppm.

If the fundings prompt further study and pressures mount for a zinc ban, the oil companies could be in the same situation as now with lead. Zinc-dialkyl diphiophastes are important in motor oils. Adding them to oil solved a serious problem with valve train wear that plagued automakers and the oil companies a couple of decades ago. Removing zinc from motor oil would necessitate finding an alternative solution to that wear problem, and oil men say it would be just as much trouble as getting lead out of gas. Interior's findings come at a time when there is some question among auto and oil industry researchers of zinc's effect on exhaust emissions controls. There is some evidence that zinc in sufficient quantity in oil may be a source of phosphorus that can cause platinum catalysts to fail.

Weeds harvested at Lake Wabamun

About 1,800 tons of weeds were harvested from Lake Wabamun, west of Edmonton, during the summer, at a cost of $90,000, Environment Minister Bill Yurko recently told the legislature.

Mr. Yurko said the program would be continued again in 1973 with an additional weed cutter to be bought by Calgary Power.

Approximately 6,400 man-hours of work were spent during the summer cutting operations.

Alberta Naturalists elect new executive

At the annual general meeting of the Board of Directors of the Federation of Alberta Naturalists held in Calgary recently, the following officers were elected: president, Dr. John Powell of Edmonton; vice-president, Aileen Harmon of Banff; treasurer, Helen Schuler of Lethbridge. Elected directors representing local natural history societies were Helen Harris of Penhold, Euretta Scoular of Red Deer, Cam Finlay of Edmonton, Catherine Osborne and Gordon Kerr of Calgary, Frances Schultz of Monarch, Gerry Wilkie of Banff, and Dave Spalding of Edmonton, who is also the editor of the "Alberta Naturalist". Appointed directors were Joy Finlay of Edmonton and Dr. Charles Bird of Calgary.

The Federation is composed of naturalists' groups in Edmonton, Calgary, Lethbridge, Red Deer and Banff, who elect two directors each to the board, and has individual memberships from all parts of the province and outside. The Federation serves as a liaison and coordinating organization on their behalf, and promotes a knowledge of natural history and ecological processes among Albertans of all ages. The Federation publishes quarterly the "Alberta Naturalist" which is available to any interested Albertan for $2 per year from P.O. Box 1472, Edmonton.

Technique developed to recycle manure into cattle feed

General Electric researchers have developed a technique for recycling manure into high-protein cattle feed. The company has opened a demonstration plant at Casa Grande, Arizona, to further investigate commercial potential.

Dr. W. D. Bellamy of GE told an American Chemical Society meeting the demonstration facility is equipped to produce 120 lbs. of feed daily from 340 lbs. of dry manure--estimated daily output from about 100 cattle. The process uses a special strain of bacteria that thrive at 130°F to 140°F. Manure is shredded, mixed with water, then moved through three fermentation tanks where the bacteria consume it. Water is filtered off and recycled. The residue is protein-rich because of the bacterial digestive process and any pathogenic bacteria are killed by the heat. Dried and powdered, the end product is an odorless, tasteless food supplement which, GE says, is as nutritious as soybean, cottonseed or fish meals.

Researchers from Hamilton Standard Division of United Aircraft Corporation also reported success with conversion of manure through bacterial action. HSD's process uses bacteria already in the wastes and operates without oxygen, but experiments haven't yet gone beyond the laboratory stage.

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